

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1-9. (Canceled)

10. (Previously Presented) An apparatus for the generation of high-energy terahertz radiation comprising:

a source effective to produce optical radiation; and

a semiconductor substrate having a refractive index, n , and a photo-generated dipole generated upon interaction with the optical radiation, the photo-generated dipole oriented to radiate terahertz radiation having power at least about n^2 times higher than the power of the terahertz radiation radiated by a photo-generated dipole which is not so oriented; and

a structure of a polytetrafluoroethylene base with an InAs film forming a grating on the surface of the semiconductor substrate.

11. (Original) The apparatus of claim 10 wherein the grating has an apex angle of about ninety degrees.

12. (Original) The apparatus of claim 10 wherein the InAs film has a thickness greater than the absorbance length of the optical radiation.

13. (Original) The apparatus of claim 10 wherein the optical radiation is incident substantially perpendicular to the grating of the semiconductor substrate.

14. (Currently Amended) The apparatus of claim 10 wherein the grating structure includes a grating formed by a series of structures each having the configuration of a triangle.

15. (Original) The apparatus of claim 14 wherein the optical radiation is incident on the surface of the semiconductor substrate at the Brewster's angle to each individual structure of the grating.

16-20. (Canceled)